ABSTRACT OF THE DISCLOSURE

Methods of forming niobium powders and other metal powders are described. The method involves milling the metal powders at elevated temperatures and in the presence of at least one liquid solvent. The methods of the present invention have the ability to reduce DC leakage and/or increase capacitance capabilities of metal powders when formed into capacitor anodes. The present invention further has the ability to significantly reduce the milling time necessary to form high surface area metal powders and leads to reducing the amount of contaminants in the metal powders. Metal powders such as niobium powders having reduced amount of contaminants and/or having DC leakage or capacitance capabilities are also described. A process is further described for forming a flaked metal by wet-milling a metal powder into a flaked metal wherein at least one liquid fluorinated fluid is present during the wet-milling process. The process is particularly well suited for forming metal flakes, such as niobium or tantalum flakes, of high purity.